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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/977,670

10/12/2001

Richard L. Schober

5288P003

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08/19/2005

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EXAMINER

BHANDARI, PUNEET

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,670

Applicant(s)

SCHOBER, RICHARD L.

Examiner

Puneet Bhandari

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 14-15 and 26 is/are rejected.
- 7) ☒ Claim(s) 3-13, 16-25 and 27-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/7/2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities:

Regarding claim 2, it is advised by the examiner to insert word "wherein" between "and" and "the" on line 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 14,15 & 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeon (US 6,212,182) in view of Khan et al (US 2002/0143951).

Regarding claim 1, Fig 1.McKeown teaches a method to process a multicast transfer request (multicast data cells) within an interconnect device (105) also disclosed in column 3, lines 30-50.

The step of receiving the multicast transfer request pertaining to a packet stored by interconnect device is taught by step of receiving the data cells disclosed in Fig 2. step 210 and column 4, lines 42-46.

Fig 2.McKeown teaches the step of generating a transfer grant (223) at least one of the number of unicast transfer requests (step 223-227), determining whether transfer grant have been generated for all of the number of unicast request is taught by the step

of determining are there any further unicast inputs to be scheduled for transmission disclosed in column 5, lines 20-35 and steps (223-227), Fig 2.

Fig 2.McKeown teaches the step if transfer grants have been generated for all of the number of unicast transfer request, then discarding the packet to which the multicast transfer request pertains as disclosed in steps 223-226 and also disclosed in column 4-lines 47-67 and column 5, lines 1-35.

Fig 2.steps 223-227 also teaches if transfer grant (223) have not been generated for all of the number of unicast transfer request, then retaining the packet to which the multicast transfer request pertains. The reference teaches that the step of determining are there any further unicast inputs to be scheduled for transmission disclosed in column 5, lines 20-35 and steps (223-227), Fig 2.

McKeown fails to teach spawning a number of unicast transfer request based on multicast transfer request. Khan et al. teaches generating a number of unicast transfer request based on multicast transfer request (refer Fig.4 and paragraph 0023, lines 1-31). At the time of invention it would have been obvious to one in ordinary skill in art to add to the method to process a multicast transfer request of McKeown spawning a number of unicast transfer request based on multicast transfer request of Khan et al. One in ordinary skill in art would have been motivated to do so for sending a transmitted multicast packet stream to a unicast device (refer paragraph 001 of Khan et al.).

Regarding claims 2 & 15, the limitation discarding of the packet includes freeing a memory location at which the packet is stored by the interconnect device is taught by

removing the scheduled inputs and outputs from consideration disclosed in column 5, lines 20-30.

The limitation retaining of the packet includes continuing storage at memory location (queue data cells for transmission) at which the packet is stored by the interconnect device is taught by the step of determining are there any further unicast inputs to be scheduled for transmission in queue disclosed in column 5, lines 20-35 and steps (221-227), Fig 2.

Regarding claim **14**, Fig 2. McKeown teaches a system to process a multicast transfer request (multicast data cells) within an interconnect device (120) also disclosed in column 3, lines 30-50.

Fig. 1 teaches the limitation a grant control (182) coupled to receive transfer grants from an arbiter (111) of the interconnect device (105).

Fig 2. McKeown teaches the step of generating a transfer grant (223) at least one of the number of unicast transfer requests (step 223-227), determining whether transfer grant have been generated for all of the number of unicast request is taught by the step of determining are there any further unicast inputs to be scheduled for transmission disclosed in column 5, lines 20-35 and steps (223-227), Fig 2.

Fig 2. McKeown teaches the step if transfer grants have been generated for all of the number of unicast transfer request, then discarding the packet to which the multicast transfer request pertains as disclosed in steps 223-226 and also disclosed in column 4- lines 47-67 and column 5, lines 1-35.

Fig 2.steps 223-227 also teaches if transfer grant (223) have not been generated for all of the number of unicast transfer request, then retaining the packet to which the multicast transfer request pertains. The reference teaches that the step of determining are there any further unicast inputs to be scheduled for transmission disclosed in column 5, lines 20-35 and steps (223-227), Fig 2.

McKeown fails to teach spawning a number of unicast transfer request based on multicast transfer request. Khan et al. teaches generating a number of unicast transfer request based on multicast transfer request (refer Fig.4 and paragraph 0023, lines 1-31). At the time of invention it would have been obvious to one in ordinary skill in art to add to the method to process a multicast transfer request of McKeown spawning a number of unicast transfer request based on multicast transfer request of Khan et al. One in ordinary skill in art would have been motivated to do so for sending a transmitted multicast packet stream to a unicast device (refer paragraph 001 of Khan et al.).

Regarding claim 26, Fig 1. McKeown teaches a machine-readable medium (105) storing a description of a circuit also disclosed in column 3, lines 30-50.

Fig. 1 teaches the limitation a grant control (182) coupled to receive transfer grants from an arbiter (111) of the interconnect device (105).

Fig 2.McKeown teaches the step of generating a transfer grant (223) at least one of the number of unicast transfer requests (step 223-227), determining whether transfer grant have been generated for all of the number of unicast request is taught by the step of determining are there any further unicast inputs to be scheduled for transmission disclosed in column 5, lines 20-35 and steps (223-227), Fig 2.

Fig 2.McKeown teaches the step if transfer grants have been generated for all of the number of unicast transfer request, then discarding the packet to which the multicast transfer request pertains as disclosed in steps 223-226 and also disclosed in column 4- lines 47-67 and column 5, lines 1-35.

Fig 2.steps 223-227 also teaches if transfer grant (223) have not been generated for all of the number of unicast transfer request, then retaining the packet to which the multicast transfer request pertains. The reference teaches that the step of determining are there any further unicast inputs to be scheduled for transmission disclosed in column 5, lines 20-35 and steps (223-227), Fig 2.

McKeown fails to teach spawning a number of unicast transfer request based on multicast transfer request. Khan et al. teaches generating a number of unicast transfer request based on multicast transfer request (refer Fig.4 and paragraph 0023, lines 1-31). At the time of invention it would have been obvious to one in ordinary skill in art to add to the method to process a multicast transfer request of McKeown spawning a number of unicast transfer request based on multicast transfer request of Khan et al. One in ordinary skill in art would have been motivated to do so for sending a transmitted multicast packet stream to a unicast device (refer paragraph 001 of Khan et al.).

Allowable Subject Matter

4. Claims 3-13, 16-25 & 27-31 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Regarding claims **3 & 16**, prior art of record fails to teach generating a spawn count of the number of unicast transfer requests spawned based on the multicast transfer request, and maintaining a transfer grant count of a number of transfer grants generated responsive to the number of unicast transfer requests, wherein the determination includes determining whether the transfer grant count equals the spawn count.
6. Regarding claims **4 & 17**, prior art of record fails to teach generating a spawn count of the number of unicast transfer requests spawned based on the multicast transfer request, and decrementing the spawn count responsive to the generation of the transfer grant, wherein the determining includes determining whether the spawn count is equal to zero.
7. Regarding claim **27**, prior art of record fails to teach description comprises a behavioral level description of the circuit.
8. Regarding claim **29**, prior art of record fails to teach description comprises a behavioral level description of the circuit that is compatible with verilog format.
9. Regarding claim **30**, prior art of record fails to teach description comprises a register transfer level netlist
10. Regarding claim **29**, prior art of record fails to teach description comprises a transistor level netlist

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schober (US 6,839,794), Angle et al (US 6,477,169), Chou et al.

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(US 6,920,106), Moussavi et al. (US 6,767,331), Hooper (US 2003/0043803) and Angle et al. (US 6,661,788).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Puneet Bhandari whose telephone number is 571-272-2057. The examiner can normally be reached on 9.00 AM To 5.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Puneet Bhandari
Examiner
Art Unit 2666

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DANG TON
PRIMARY EXAMINER